



SCL Checklists on Site & Environment, Activities, Substances and Mitigation

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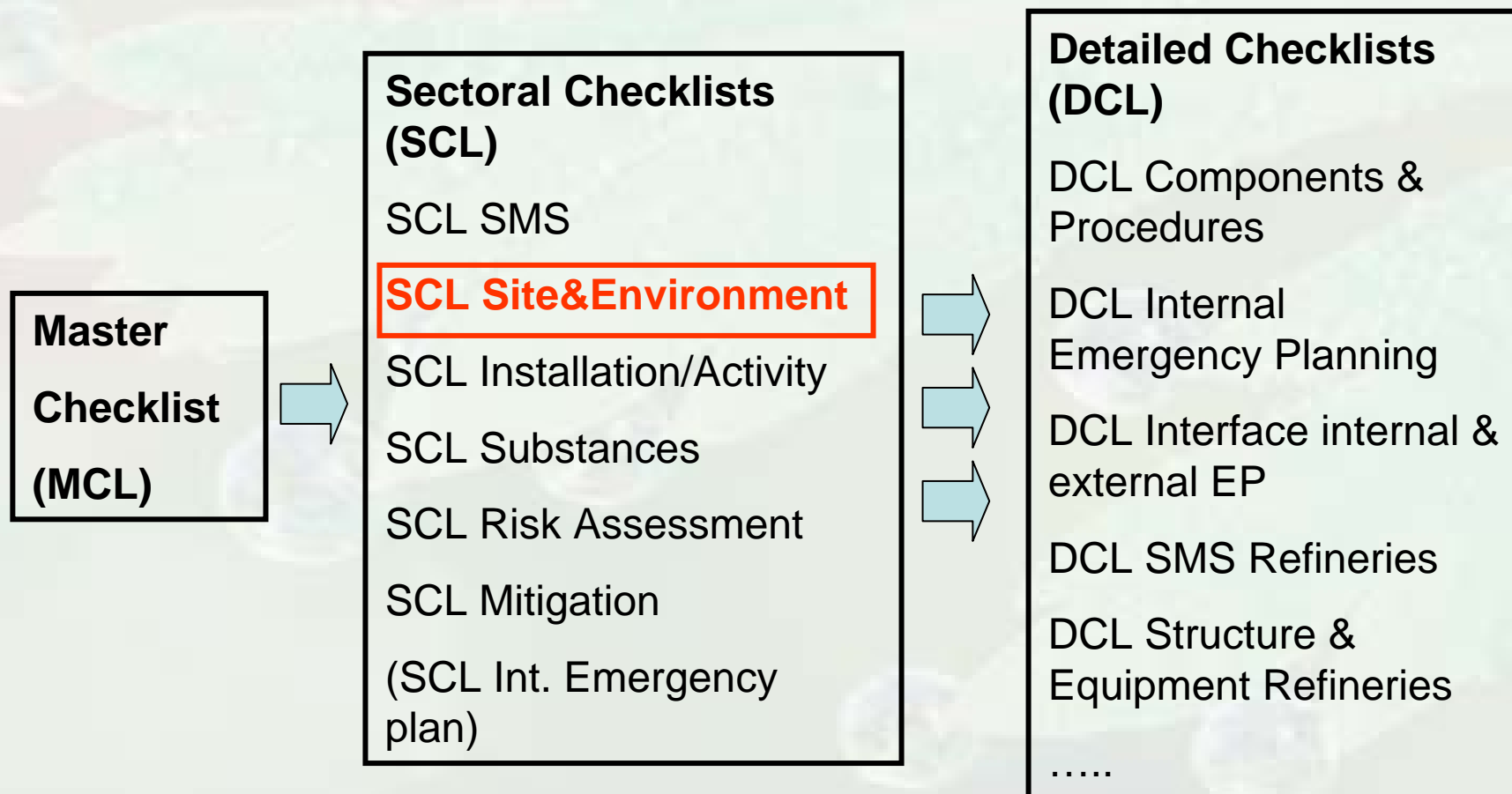


UNECE

**Convention on the Transboundary Effects of Industrial
Accidents**

**Assistance Programme for Eastern Europe, Caucasus and
Central Asia (EECCA) and South-Eastern Europe (SEE)**

System of Checklists



SCL Checklist on Site & Environment (1/4)

- Checklist for the “General part of the safety report”
- Refers to Annex 2, Section II, SEVESO II
- Focus lies on overall description, not very detailed



SCL Checklist on Site & Environment (2/4)

- Description of the site and its environment
 - **General description of the site** (purpose; main activities; history; status of authorizations; number of persons working; general statements on main hazards)
 - **Description of the location** (residential areas; establishments frequented by public; sensitive public buildings; ecologically vulnerable areas; public utilities possibly affected; industrial activities in neighborhood; traffic routes and major transportation centers)
 - **Natural environment** (meteorological data; geological & hydrological data; site specific natural factors)
 - **Layout of the establishment** (main storage facilities; process installations; location of relevant substances and their quantities; relevant equipment; spacing of the installations; internal infrastructure equipment; location of key abatement systems; location of occupied buildings, etc.)



SCL Checklist on Site & Environment (3/4)

- Identification of installations and other activities of the establishment which could present a major accident hazard
 - The installations of an establishment to be submitted to risk analysis have to be selected through a screening method.
 - The result of this screening process should be indicated in a separate form in the SR, e. g. a list of the installations and activities or a specific indication in the respective maps.

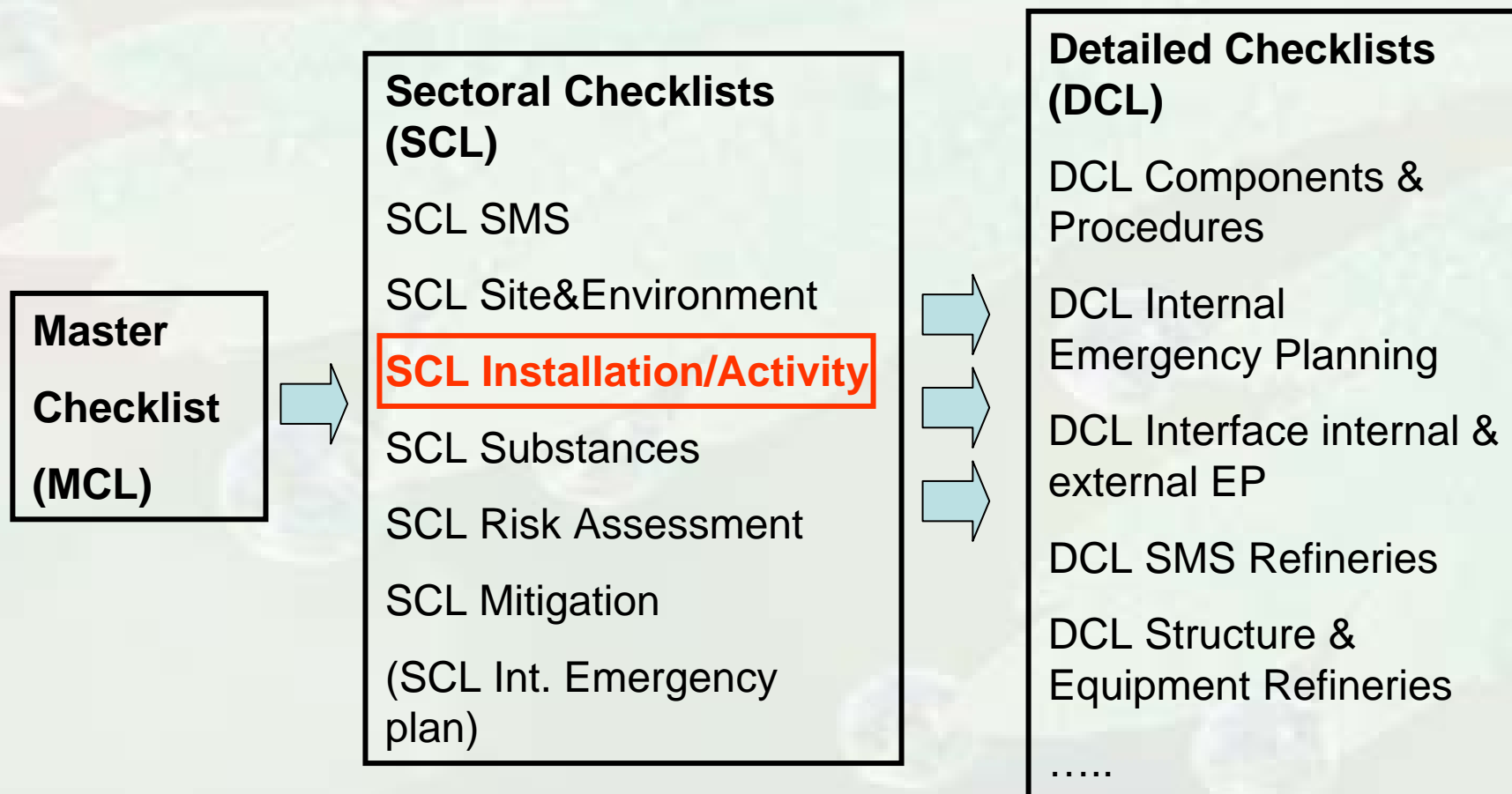


SCL Checklist on Site & Environment (4/4)

- Description of general strategies/equipment for the whole establishment:
 - Major accident prevention measures
 - Major accident mitigation measures
 - Occupational Health and Safety measures
 - Internal emergency plan
 - Security
 - Land use planning
 - Involvement of the public



System of Checklists



SCL Checklist on Identification of installations and other activities (1/3)

- Checklist for the “Part of the safety report specific for single installations”
- Refers to Annex 2, Section III A&B, SEVESO II
- The descriptions should be quite detailed



SCL Checklist on Identification of installations and other activities (2/3)

- Hazardous installations and activities and processes
 - **Summarising descriptions, covering certain relevant topics, such as:** choice of materials important to safety; foundations; design of equipment under high pressure or temperature; size; stability (static & dynamic); design against external events. → see DCL Reaction process design considerations
- Used technical standards
- Description of processes, in particular the operating methods
 - **Measures for operations**, e.g., normal running, shut-down, start-up, exceptional operations, etc.
 - **Specific precautions** during storage, transport or handling because of specific characteristic of the substance (e.g., protection from vibration or from ambient humidity).

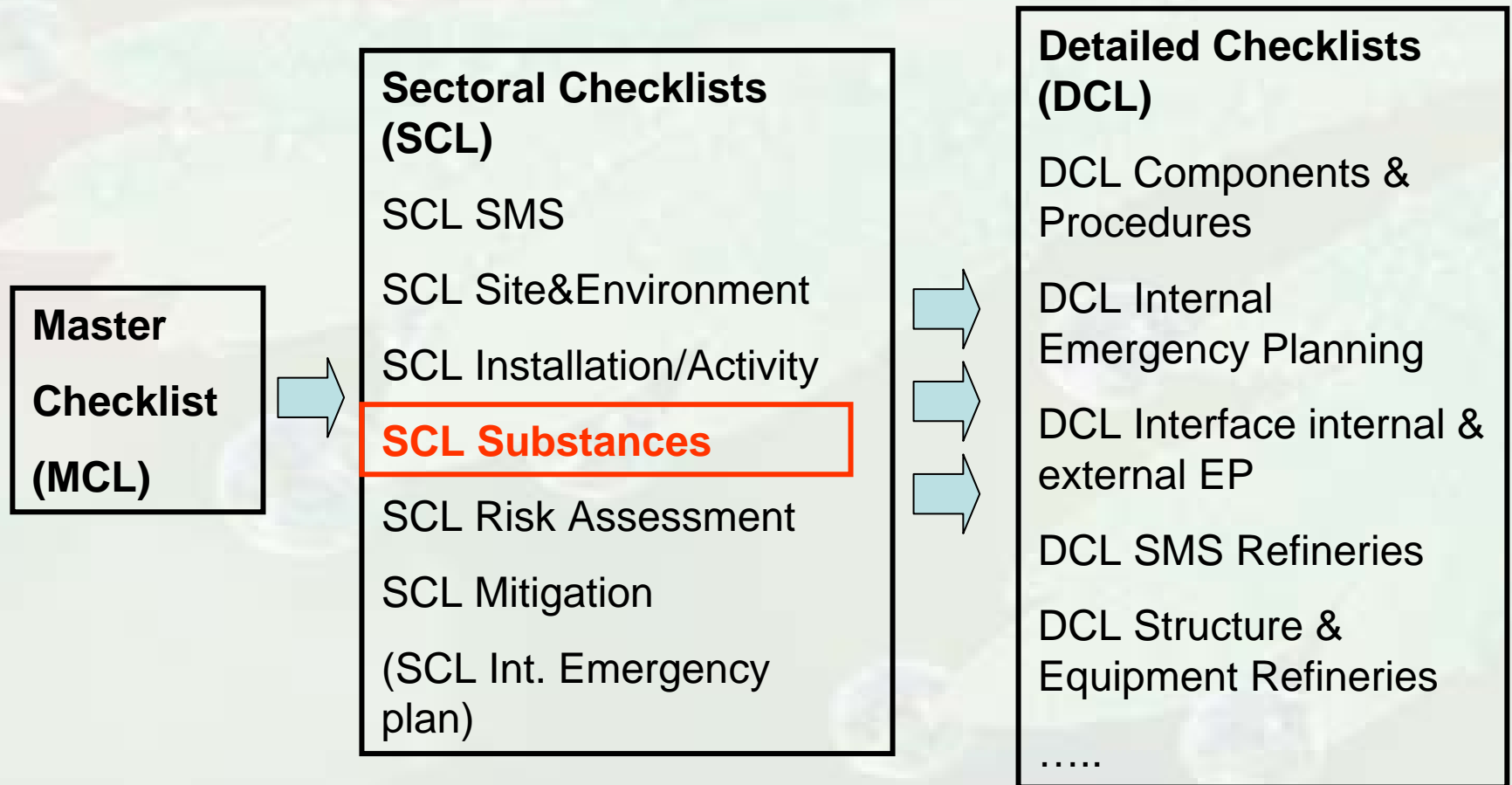


SCL Checklist on Identification of installations and other activities (3/3)

- Identification of safety relevant components
 - Screening method, e.g. components with hazardous substances, 0.5 – 2 % of qualifying quantity according Annex 1 column 2 (Art 5&6)
 - Same quantity for mass flow (kg/10min)
 - Safety relevant components (relieve valves, PLT)
- Description of hazardous activities, like
 - basic operations; chemical reactions, physical and biological conversions and transformations; on-site interim storage; loading-unloading, transport; discharge, retention, re-use and recycling ;treatment of waste gases & waters, etc.



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SCL Checklist on Substances (1/5)

- Checklist for the “Part of the safety report specific for single installations”
- Refers to Annex 2, Section III C, SEVESO II
- Data on hazardous substances are crucial for the whole strategy of major accident control
- Substances may be present as:
 - raw materials;
 - intermediate products;
 - finished products;
 - by-products, wastes and auxiliary products;
 - products formed as a result of loss of control of chemical processes.



SCL Checklist on Substances (2/5)

Description of dangerous substances:

- Inventory of dangerous substances, including:
 - Identification of dangerous substances: CAS Number, IUPAC Name, commercial name, empirical formula, chemical composition, degree of purity if relevant, the most important contamination, etc.
 - Maximum quantity of dangerous substances present or likely to be present;



SCL Checklist on Substances (3/5)

Physical, chemical, toxicological characteristics and indication of the hazards, both immediate and delayed for man and the environment;

- **Physical & chemical data**, like: Characteristic temperatures and pressures, concentration and phases at normal and abnormal conditions, equilibrium data and operation curves, thermodynamic and transport properties, data on phase changes, combustibility of solids, thermal stability data, data on reactions and their rates, decomposition etc. → **see DCL Chemical reaction hazard identification**



SCL Checklist on Substances (4/5)

Physical, chemical, toxicological characteristics and indication of the hazards, both immediate and delayed for man and the environment;

- **Toxicological characteristics**, like: toxicity, persistence, irritant effects, long-term effects, synergistic effects, warning symptoms, effects to the environment, ecotoxic data, etc.
- **Flammability and explosive characteristics**, like: flash points, ignition temperatures, combustibility of solids, explosion limits, etc.

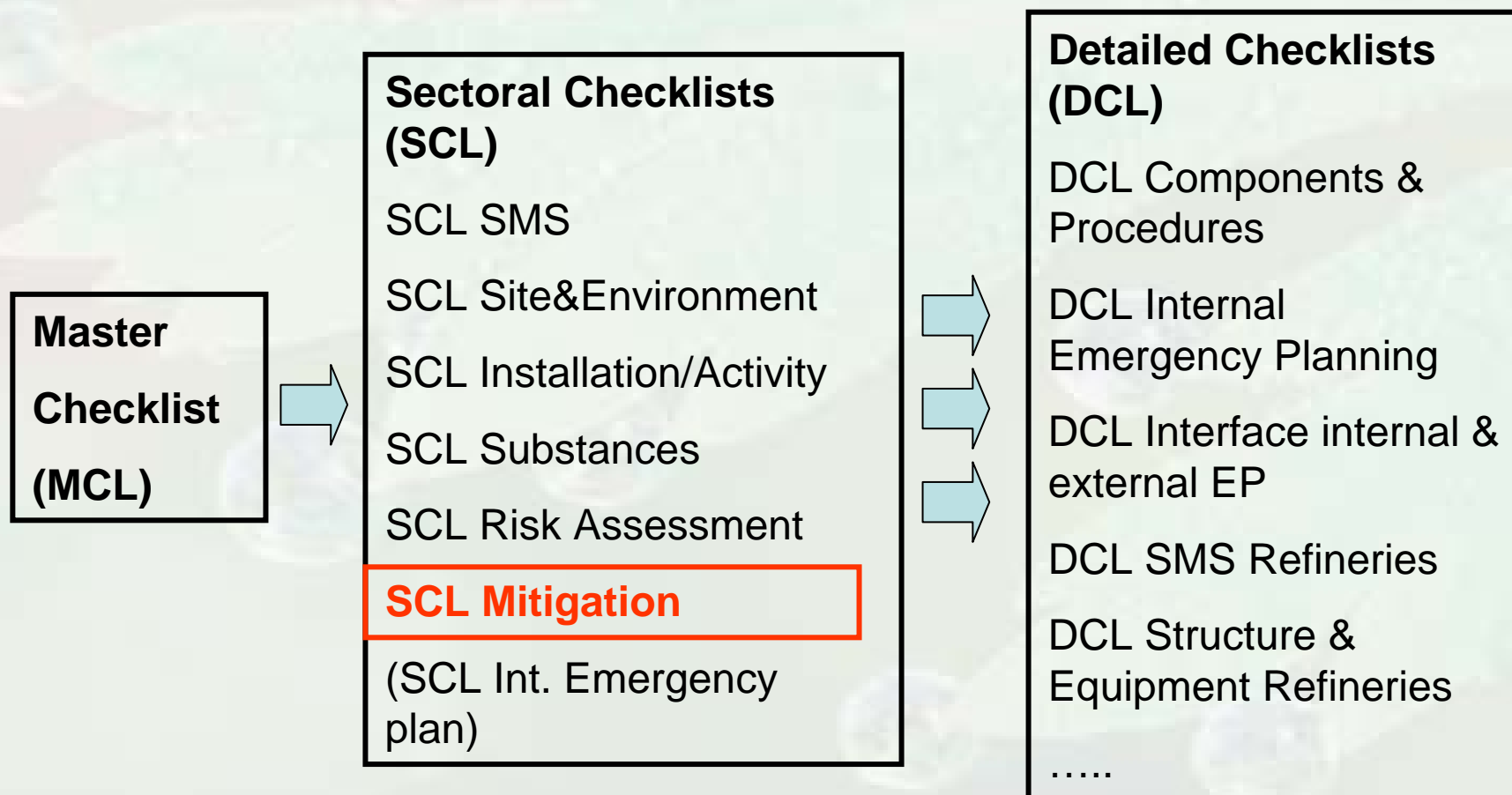


SCL Checklist on Substances (5/5)

Description of dangerous substances:

- Physical and chemical behavior under normal conditions of use or under foreseeable accidental conditions.
 - **Substance characteristics under loss of control** of process or storage conditions, like: information on possible transformation into new substances with other properties of toxicity, degradability etc.

System of Checklists



SCL Checklist on limitation of consequences and mitigation (1/5)

- Checklist for the “Part of the safety report specific for single installations”
- Refers to Annex 2, Section V, SEVESO II
- The descriptions should be quite detailed

SCL Checklist on limitation of consequences and mitigation (2/5)

- *Description of the equipment installed in the plant to limit the consequences of major accidents;*
 - *A description of equipment installed in the plant to limit the consequences of major accidents should be provided. This list should include an adequate description of the circumstances under which the equipment is intended for use. (→Link to Risk Assessment results!)*

SCL Checklist on limitation of consequences and mitigation (3/5)

- *Organization of alert and intervention;*
 - organisation, responsibilities, and procedures for emergency response;
 - training and information for personnel and emergency response crews;
 - activation of warnings and alarms for site personnel, external authorities, neighbouring installations, and where necessary for the public;
 - identification of installations which need protection or rescue interventions;
 - identification of rescue & escape routes, emergency refuges, sheltered buildings, and control centres;
 - provision for shut-off of processes, utilities and plants with the potential to aggravate the consequences.



SCL Checklist on limitation of consequences and mitigation (4/5)

- *Description of resources that can be mobilised, internal or external;*
 - activation of external emergency response and co-ordination with internal response;
 - mutual aid agreements with neighbouring operators and mobilisation of external resources;
 - resources available on-site or by agreement (i.e., technical, organizational, informational, first aid, specialized medical services, etc.).



SCL Checklist on limitation of consequences and mitigation (5/5)

- *Summary of elements necessary for drawing up the internal emergency plan prepared in compliance with Article 11*
 - The report should include a summary of elements described above that are necessary for the preparation of the internal emergency plan to deal with major accidents, or for foreseeable conditions or events that could be significant in bringing about a major accident. It may be useful to include or refer to the internal emergency plan which has been drawn up to comply with Article 11 of the Directive.



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