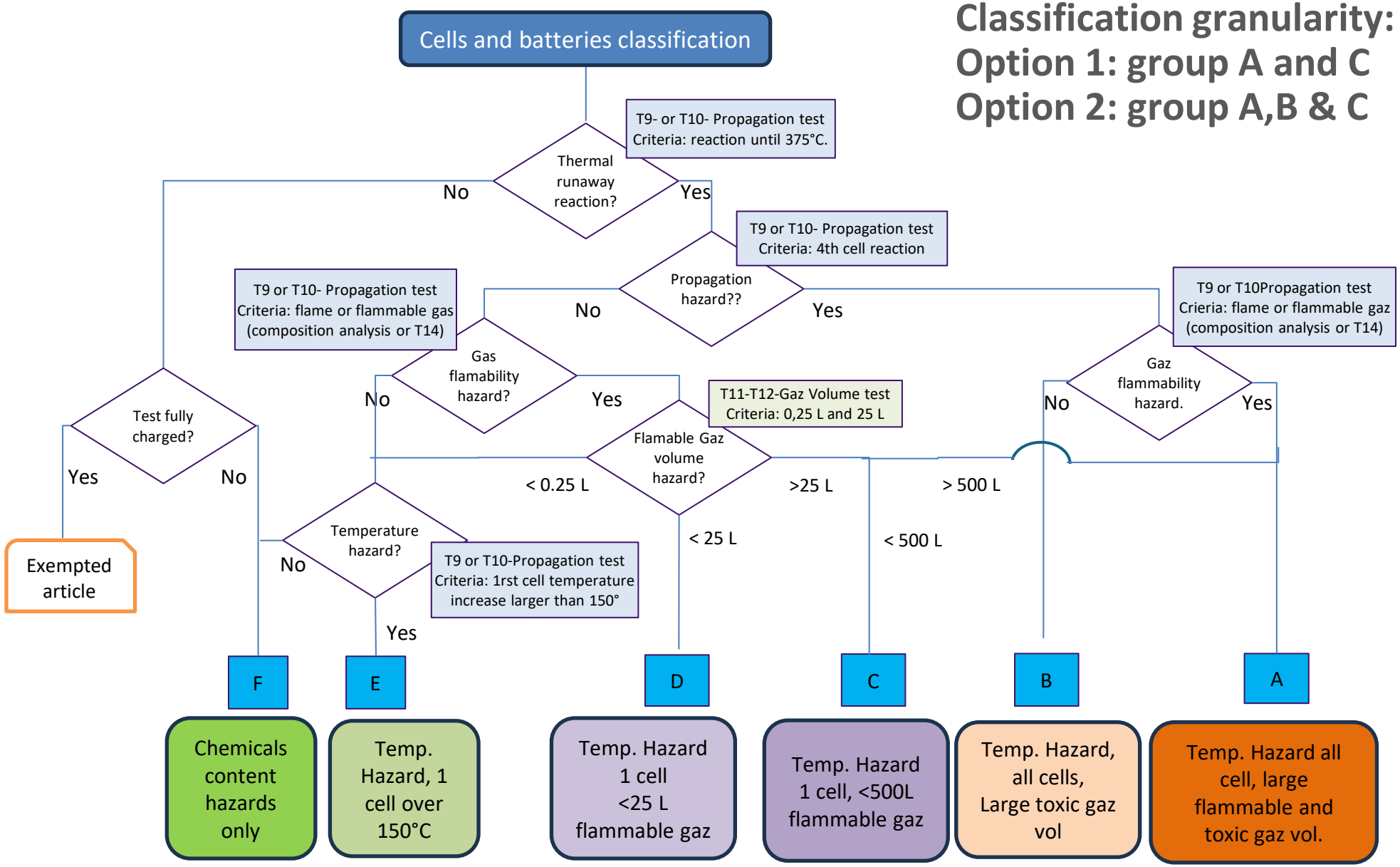
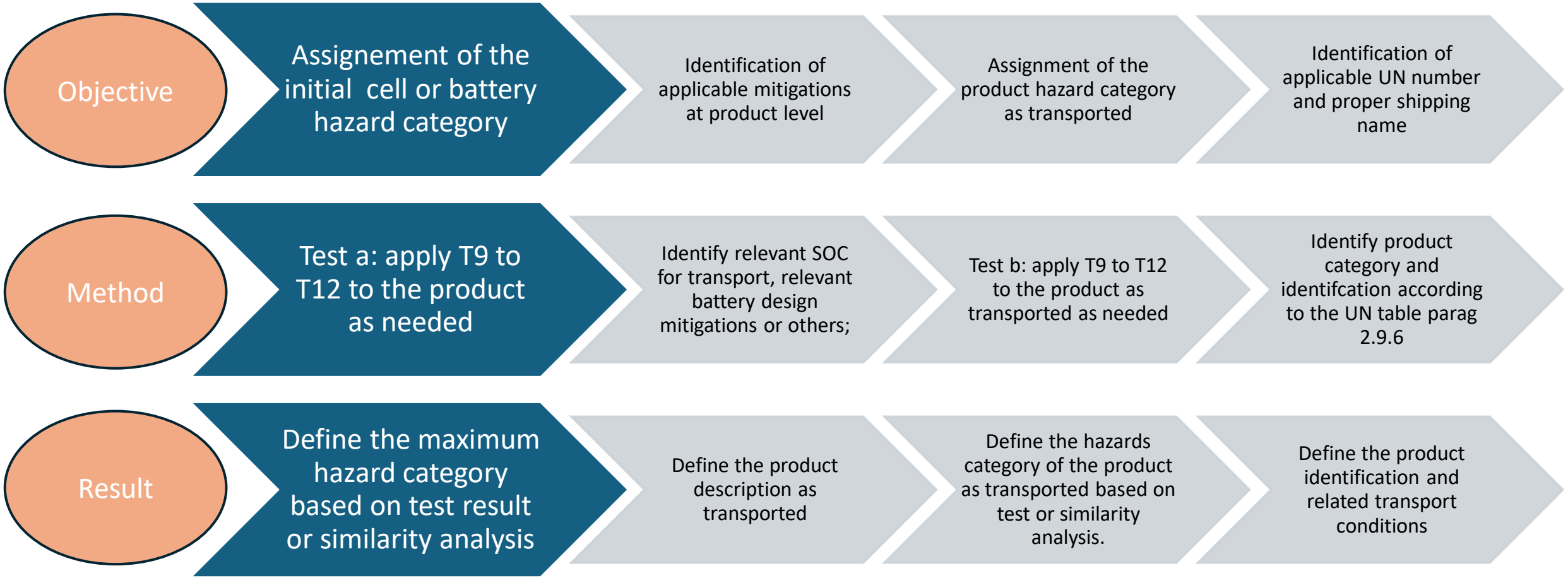
New classification tree

Classification granularity:
Option 1: group A and C
Option 2: group A,B & C

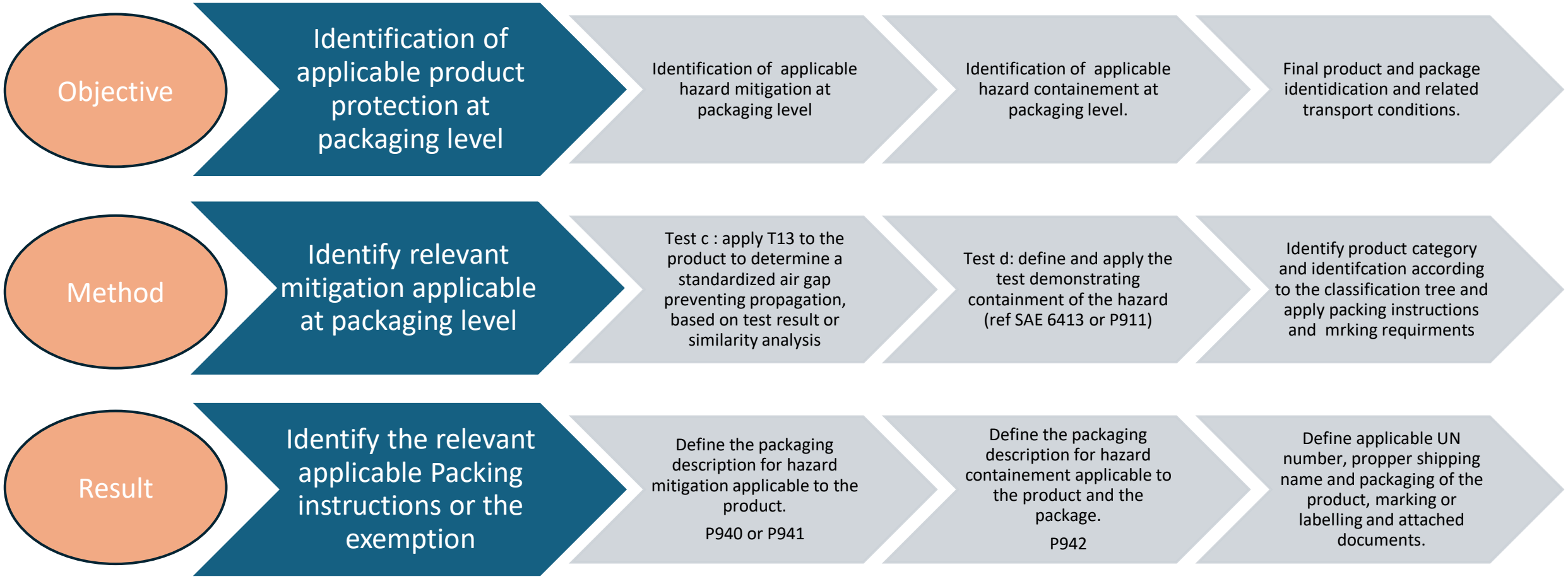


Process for the new classification of a cell or battery (1)



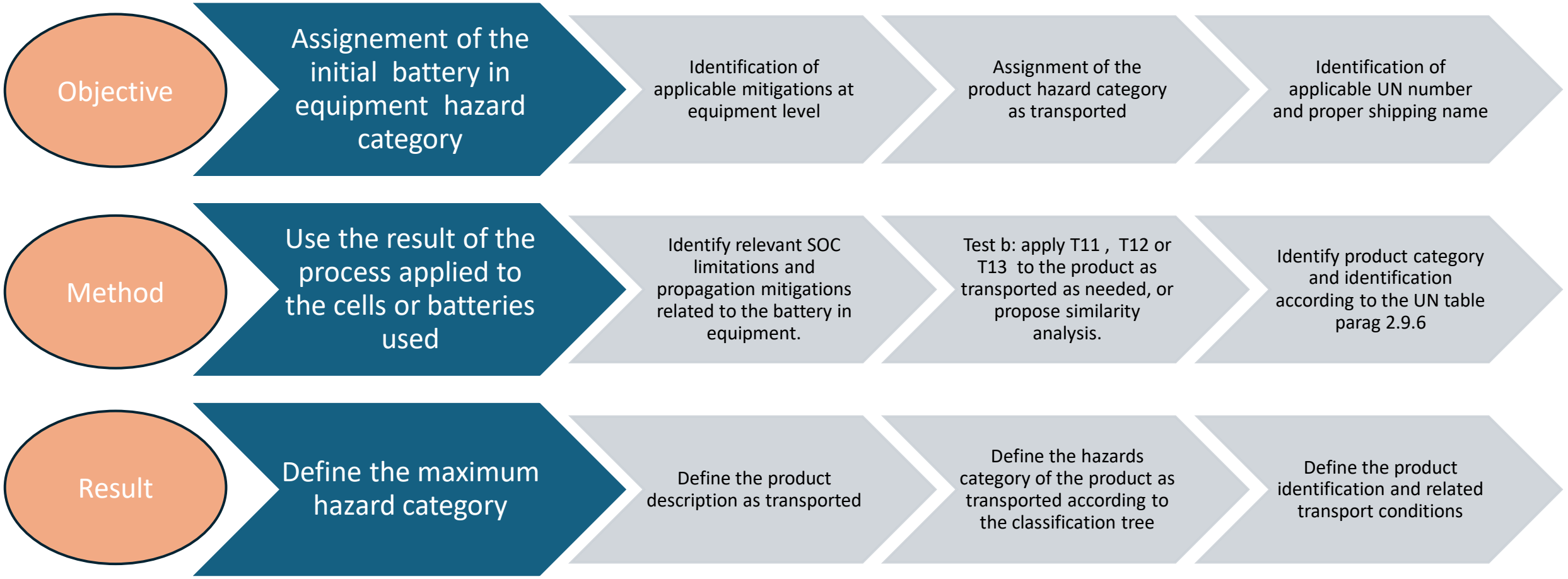
Note: the results of at least one of the two tests (Test a or Test b) must be available to use the classification

Process for the new classification of a cell or battery (2)



Note: according to the product properties, the manufacturer can decide what are the more appropriate safety conditions applicable at packaging level and only apply the relevant test method.

Process for the new classification of a battery in or with equipment (3)



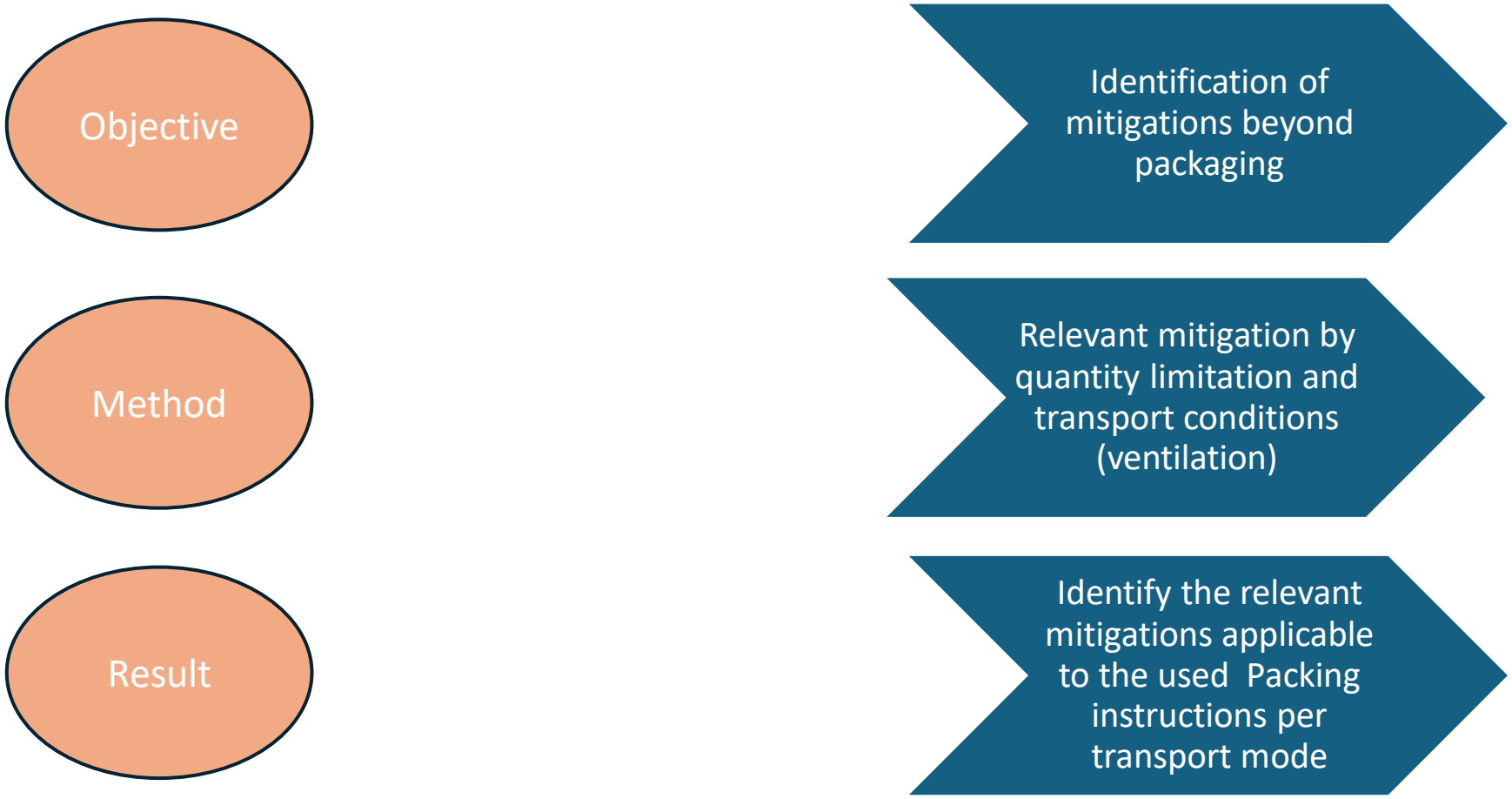
Note: the results of at least one of the two tests (Test a or Test b) must be available to use the classification

Process for the new classification of a battery in or with equipment (4)

Objective	Identification of applicable product protection at packaging level	Identification of applicable hazard mitigation at packaging level	Identification of applicable hazard containment at packaging level.	Final product and package identification and related transport conditions.
Method	Identify relevant mitigation applicable at packaging level	Test c : apply T13 to the product to determine a standardized air gap preventing propagation, based on test result or similarity analysis	Test d: define and apply the test demonstrating containment of the hazard (ref SAE 6413 or P911)	Identify product category and identifcation according to the classification tree and apply packing instructions and marking requirments
Result	Identify the relevant applicable Packing instructions or the exemption	Define the packaging description for hazard mitigation applicable to the product. P940 or P941	Define the packaging description for hazard containment applicable to the product and the package. P942	Define applicable UN number, proper shipping name and packaging of the product, marking or labelling and attached documents.

Note: according to the product properties, the manufacturer can decide what are the more appropriate safety conditions applicable at packaging level and only apply the relevant test method.

Process for the new classification : other mitigations



Note: according to the product properties, the manufacturer can decide what are the more appropriate safety conditions applicable at packaging level and only apply the relevant test method.

Maximum product Hazards characterization:	Product testing at 100% SOC and classification in Divisions	Chemical Content Hazards Only **Division 9 F**	No propagation , heat, Gas < 0.25 L **Division 9 E**	No propagation, heat, Flammable 0.25L< Gas < 25 L **Division 9 D**	No propagation heat, flammable 25L< Gas <500 L **Division 9 C**	Propagation or not HEAT, Non flam. Large Q. Gas **Division 9 B**	Propagation or not HEAT, Flammable Large Q. Gas **Division 9 A**
Hazard mitigation at product level	Main methods: Cell and battery SOC, Battery design	/	/ Battery: propagation prevention	Cell: SOC Battery: propagation prevention	Cell: SOC Battery: propagation prevention	Cell: SOC Battery: propagation prevention	Cell: SOC Battery: propagation prevention
Product Hazard as transported characterization, Identification	If needed, product test at SOC and battery test, Assignment of UN number and prop. shipping name	**UN 3600** (BATTERY, SODIUM and LI ION) **UN 3601** (LI METAL) **Division 9 F**	**UN 3602** (BATTERY SODIUM and LI ION) **UN 3603** (LI METAL) **Division 9 E**	**UN 3604** (BATTERY SODIUM and LI ION) **UN 3605** (LI METAL) **Division 9 D**	**UN 3606** (BATTERY SODIUM and LI ION) **UN 3607** (LI METAL) **Division 9 C**	**UN 3606** (BATTERY SODIUM and LI ION) **UN 3607** (LI METAL) **Division 9 B**	**UN 3608** (BATTERY SODIUM and LI ION) **UN 3609**(LI METAL) **Division 9 A**
Product protection at packaging level	Packaging selection and packaging instructions	general provisions, drop test? or strong packaging or casing **PI 940** No short circuit/no activation	PG II?? or Strong, rigid outer Packaging, or casing **PI 940** No short circuit/no activation	PG II or Strong, rigid outer Packaging, or casing **PI 941** No short circuit/no activation	PG II or Strong, rigid outer Packaging, or casing **PI 941** No short circuit/no activation	PG II **PI 941** No short circuit/no activation	PG II **PI 941** No short circuit/no activation
Hazard mitigation at packaging level	Product Gap testing and Complementary Packaging Instructions	/	/	/	+ Propagation prevention by separations or others methods **PI 942**	+ Propagation prevention by separations or others methods **PI 942**	+ Propagation prevention by separations or others methods **PI 942**
Hazard containment at packaging level	Package/material testing if needed, Complementary Packaging Instructions				+ Non-combustible, non-conductive material **PI 943**	+ Non-combustible, non-conductive material **PI 943**	+ Non-combustible, non-conductive material **PI 943**