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# ▼Chapter 1 Introduction

# $\bigtriangledown$ 1-1 Foreword

This document contains information on waste batteries in accordance with Article 74 of "Regulation (EU) 2023/1542 of the European Parliament and of the Council concerning batteries and waste batteries".

# ▼ Chapter 2 Common information

# abla2-1 The role of consumers in contributing to waste prevention

Consumers should contribute to preventing the disposal of batteries, to achieve sustainable development and improve people's happiness and health in the fight against climate change. When batteries reach the end of their life or need replacement, consumers should always discard used batteries separately from household waste in accordance with local laws and regulations. These batteries are indicated by the crossed out wheeled garbage can symbol.

Batteries containing heavy metals are marked with the chemical symbols (Cd, Pb). These heavy metals can be harmful to the health of humans and animals and accumulate in the environment. Consumers is legally required to return these batteries properly.

Be aware of the hazards associated with damaged or improperly disposed batteries, which can leak toxic chemicals, cause fires, and contaminate soil and water.

High-Voltage Traction Batteries and SLI Batteries require proper battery charging methods, safe handling, and precautions for use in accordance with manufacturer's instruction to ensure safe battery management.

High-Voltage Traction Batteries can be handed into SUBARU dealers.

SLI Batteries can be handed into SUBARU dealers or local collection points.

# How batteries are recycled



**Take-back:** Collect the waste batteries and send them to an appropriate recycling facility.



**Dismantle:** Removal of incorporated batteries and separating the internal cells.



**Material separation:** Valuable materials such as lithium, cobalt and nickel are separated by chemical or mechanical methods.



**Preparation for re-use:** The separated materials are processed to purify them for reuse.

**Re-use and recycling:** Treated materials are reused to manufacture new batteries or, if recycling is not possible, may be repurposed for other industrial uses.

#### $\bigtriangledown$ 2-2 Separate collection

Manufacturers and their distributors are obliged by law to arrange for the treatment and recycling of batteries when they become waste. Consult SUBARU dealer for information on how to find collection points of used batteries. High-Voltage Traction Batteries can be handed into SUBARU dealer and service facility.

High-voltage traction battery End Of Life Vehicles | Subaru SLI Battery End Of Life Vehicles | Subaru Portable End Of Life Vehicles | Subaru

#### ▼Chapter 3 Battery Category Information

▽ 3-1 High-Voltage Traction Battery

#### : 3-1-1 Safety Instructions

#### WARNING

The chemical materials in the cell are stored in a hermetically sealed aluminum case designed to withstand temperatures and pressures encountered during normal use. <u>As a result, during</u> normal use there is no physical danger of ignition, explosion, or hazardous chemical leakage. However, High-Voltage Traction Batteries have some significant characteristics:

• This product stores high voltage electricity at over 100V. In case of removing the cover of battery assembly or heavy compression makes short circuit, electrical shock or severe burns that results in serious injury or death.

• Improper usage (overcharge, over-discharge or short circuit), extremely high temperature, sever shock or compression makes thermal runaway of the battery cells inside.

• If the electrolyte comes in contact with water, it will generate hydrogen fluoride, which is a harmful chemical.

• The electrolyte is flammable. Do not place the electrolyte close to fire.

#### HANDLING

Always observe the following precautions. Otherwise, accidents such as electric shock, heat generation, smoke generation, an explosion and electrolyte leakage may occur, resulting in serious injury or death.

• When the system requires inspection or repair, always have the work performed by your SUBARU dealer.

• Never touch, remove or disassemble the high-voltage parts, high-voltage cables (orange) or high-voltage cable connectors.

• Never touch the service disconnect plug. Only licensed and trained SUBARU dealer technicians are qualified to perform inspection or service procedures on the system.

• Never resell, hand over or modify the high-voltage battery.

STORAGE

Suitable storage conditions and storage conditions to avoid: Avoid exposing the cell to direct sunlight, high temperatures, or high humidity. Store in a cool place (storage temperature range: -30 to 35 °C, humidity: 45 to 85%).

Recommended packaging material and unsuitable packaging material: Insulative and tearproof materials are recommended.

# DISPOSAL

Proper disposal of used High-Voltage Traction Battery is essential to ensure that they do not end up in landfills and cause environmental damage.

• Do not illegally dispose of or dump the High-Voltage Traction Battery.

• Contact SUBARU dealer or service facility or a qualified shop for information on the collection of used High-Voltage Traction Battery.

For further information, please check our *Battery Safety Information* and *Owner's Manual* equipped with your vehicle and posted on the Subaru Europe site.

# : 3-1-2 Labels of batteries

Explanation of the meaning of the labels on High-Voltage Traction Batteries or printed on their packaging below.

Symbols	Meaning	Symbols	Meaning
	Do not touch		Flammables warning
	Disassembly prohibited		Wear safety glasses
	No children allowed		Refer to instruction manual/booklet
	No open flames	E	Read the technical manual
	Do not get wet	Ť	Protected from rain
AS	Do not step on		Explosives warning
	Do not place heavy objects on top	Li-ion 🖗	Li-ion battery is recyclable
	Warning symbols		Water extinguishing

4	Electric shock caution		Never dispose of batteries as domestic waste
	Corrosive caution	CE	CE marking

# : 3-1-3 Information of Hazardous substance:

Common chemical name /General name	CAS number
Lithium Metal Oxide	182442-95-1
Aluminum	7429-90-5
Cranhita	7782-42-5
Graphite	7440-44-0
Copper	7440-50-8
	21324-40-3
Organic electrolyte	96-49-1
Organic electrolyte	623-53-0
	616-38-6

# $\bigtriangledown$ 3-2 SLI (Starting, Lighting, Ignition) Battery (12 V battery)

# : 3-2-1 Safety Instructions

# WARNING

No hazards occur during the normal operation of a SLI Battery as it is described in the instructions for use that are provided with the Battery. However, SLI Batteries have three significant characteristics:

• They contain an electrolyte which contains diluted sulphuric acid. Sulphuric acid may cause severe chemical burns.

• During the charging process or during operation they might develop hydrogen gas and oxygen, which under certain circumstances may result in an explosive mixture.

• They can contain a considerable amount of energy, which may be a source of high electrical current and a severe electrical shock in the event of a short circuit.

# HANDLING

When replacing the battery, consult SUBARU dealer for information to be sure to replace it with a genuine SUBARU battery (or equivalent) designed specifically for the system.

# DISPOSAL

Proper disposal of used SLI Battery is essential to ensure that they do not end up in landfills and cause environmental damage.

• Used SLI Batteries must not be mixed with other batteries.

• Contact SUBARU dealer or service facility or a qualified shop for information on the collection of used SLI Battery.

For further information, please check our *Battery Safety Information* and *Owner's Manual* equipped with your vehicle and posted on the Subaru Europe site.

# : 3-2-2 Labels of batteries

Explanation the meaning of the labels on SLI Batteries or printed on their packaging below.

Symbols	Meaning	Symbols	Meaning
	No open flames		Wear safety glasses
	No children allowed		Refer to instruction manual/booklet
	Corrosive caution		Explosives warning
Pb	Never dispose of batteries as domestic waste	CE	CE marking

# : 3-2-3 Information of Hazardous substance:

Chemical name or common name	CAS number
Lead	7439-92-1
Lead dioxide	1309-60-0
Lead sulfate	7446-14-2
Sulphuric acid (27~50%)	7664-93-9
Polypropylene resin	9003-07-0

# $\bigtriangledown$ 3-3 Portable Battery

# :3-3-1 Safety Instructions

# WARNING

If the coin/button cell battery is swallowed, it can cause severe internal burns in just 2 hours and can lead to death. If you think batteries might have been swallowed or placed inside any part of the body, seek immediate medical attention.

# HANDLING

Do not short-circuit, disassemble, deform, heat, or incinerate the battery.

Do not place the battery on a metal case, metal plate or antistatic material.

When replacing used batteries equipped in the electronics/electric devices of Subaru vehicles, always have the work performed by SUBARU dealer.

• Electronic/electrical devices containing battery is indicated by the crossed out wheeled garbage can symbol. Used devices with this symbol must be collected separately from normal household garbage and dispose of in accordance with the legal requirements.

• Batteries for electric/electronic devices can be purchased at SUBARU dealer, service facility or local electrical appliance shop.

• Replace only with the same or equivalent type recommended by the manufacturer.

#### STORAGE

Be sure to store batteries in well-ventilated, dry, and cool conditions. Keep batteries away from water, rain, snow, frost, or dew condensation. Do not store batteries near any source of heat or a hot air nozzle. Do not store batteries in a place that receives direct sunshine. When packing is moved from a cold place to a warm and humid environment, make sure that the packing does not become damp with dew condensation. Keep batteries out of reach of children.

# DISPOSAL

Dispose of used Portable Battery appropriately.

• Make sure to cover the (+) and (-) terminals with friction tape or some other insulator before disposal. This will make them less attractive to children and to avoid risk of fire.

- Do not put CR coins in regular household trash or recycling bins.
- Follow local regulation for specific instructions on battery disposal.

For further information, please check our *Battery Safety Information* and *Owner's Manual* equipped with your vehicle and posted on the Subaru Europe site.

# : 3-3-2 Labels of batteries

Explanation the meaning of the labels on Portable Batteries or printed on their packaging below.

Symbols	Meaning
(Tr)	Keep out of reach for children

# : 3-3-3 Information of Hazardous substance:

Chemical name or common name	CAS number
Manganese dioxide	1313-13-9
Lithium metal	7439-93-2
1,2 Dimethoxyethane	110-71-4
Lithium Perchlorate	7791-03-9
Propylene Carbonate	108-32-7