

# Fleetguard Restore Plus - Acid Cooling System Cleaner

**Fleetguard**

Chemwatch: 45125  
 Version No: 4.1.1.1  
 Material Safety Data Sheet according to NOHSC and ADG requirements

Chemwatch Hazard Alert Code: 2

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 Initial Date: Not Available  
 S.Local.AUS.EN

## SECTION 1 IDENTIFICATION OF THE SUBSTANCE / MIXTURE AND OF THE COMPANY / UNDERTAKING

### Product Identifier

Product name	Fleetguard Restore Plus - Acid Cooling System Cleaner
Chemical Name	Not Applicable
Synonyms	Restore Plus - Acid Cooling System Cleaner, inhibited acid radiator cleaning treatment concentrate
Proper shipping name	Not Applicable
Chemical formula	Not Applicable
Other means of identification	Not Available
CAS number	Not Applicable

### Relevant identified uses of the substance or mixture and uses advised against

Relevant identified uses	Radiator cleaner for removing heavy rust and scale, oil contaminates and fuel contaminants.
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### Details of the manufacturer/importer

Registered company name	Fleetguard
Address	31 Garden Street Kilsyth 3137 VIC Australia
Telephone	+61 3 9721 9100
Fax	+61 3 9721 9148
Website	Not Available
Email	Not Available

### Emergency telephone number

Association / Organisation	Not Available
Emergency telephone numbers	+61 3 9573 3112
Other emergency telephone numbers	+61 3 9573 3112

### CHEMWATCH EMERGENCY RESPONSE

Primary Number	Alternative Number 1	Alternative Number 2
1800 039 008	+612 9186 1132	Not Available

Once connected and if the message is not in your preferred language then please dial 01

## SECTION 2 HAZARDS IDENTIFICATION

### Classification of the substance or mixture

NON-HAZARDOUS SUBSTANCE. NON-DANGEROUS GOODS. According to NOHSC Criteria, and ADG Code.

### CHEMWATCH HAZARD RATINGS

**Fleetguard Restore Plus - Acid Cooling System Cleaner**

	Min	Max	
Flammability	0		
Toxicity	0		0 = Minimum
Body Contact	2		1 = Low
Reactivity	0		2 = Moderate
Chronic	0		3 = High
			4 = Extreme

**Label elements**

Not Applicable

Relevant risk statements are found in section 2

<b>Poisons Schedule</b>	Not Applicable
<b>Risk Phrases</b>	Not Applicable
<b>Legend:</b>	1. Classified by Chemwatch; 2. Classification drawn from HSIS ; 3. Classification drawn from EC Directive 1272/2008 - Annex VI
<b>Indication(s) of danger</b>	Not Applicable

**SAFETY ADVICE**

Not Applicable

**Other hazards**

	May produce discomfort of the eyes, respiratory tract and skin*.
	Cumulative effects may result following exposure*.

**SECTION 3 COMPOSITION / INFORMATION ON INGREDIENTS**

**Substances**

See section below for composition of Mixtures

**Mixtures**

CAS No	%[weight]	Name
7664-38-2	1-2	phosphoric acid
	NotSpec.	additives, non hazardous
7732-18-5	>60	water

**SECTION 4 FIRST AID MEASURES**

**Description of first aid measures**

<b>Eye Contact</b>	<p>If this product comes in contact with the eyes:</p> <ul style="list-style-type: none"> <li>▶ Wash out immediately with fresh running water.</li> <li>▶ Ensure complete irrigation of the eye by keeping eyelids apart and away from eye and moving the eyelids by occasionally lifting the upper and lower lids.</li> <li>▶ Seek medical attention without delay; if pain persists or recurs seek medical attention.</li> <li>▶ Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.</li> </ul>
<b>Skin Contact</b>	<p>If skin contact occurs:</p> <ul style="list-style-type: none"> <li>▶ Immediately remove all contaminated clothing, including footwear.</li> <li>▶ Flush skin and hair with running water (and soap if available).</li> <li>▶ Seek medical attention in event of irritation.</li> </ul>
<b>Inhalation</b>	<ul style="list-style-type: none"> <li>▶ If fumes, aerosols or combustion products are inhaled remove from contaminated area.</li> <li>▶ Other measures are usually unnecessary.</li> </ul>
<b>Ingestion</b>	<ul style="list-style-type: none"> <li>▶ Immediately give a glass of water.</li> <li>▶ First aid is not generally required. If in doubt, contact a Poisons Information Centre or a doctor.</li> </ul>

**Indication of any immediate medical attention and special treatment needed**

Treat symptomatically.

**SECTION 5 FIREFIGHTING MEASURES**

Continued...

**Fleetguard Restore Plus - Acid Cooling System Cleaner**

**Extinguishing media**

	<p>The product contains a substantial proportion of water, therefore there are no restrictions on the type of extinguishing media which may be used. Choice of extinguishing media should take into account surrounding areas.</p> <p>Though the material is non-combustible, evaporation of water from the mixture, caused by the heat of nearby fire, may produce floating layers of combustible substances.</p> <p>In such an event consider:</p> <ul style="list-style-type: none"> <li>▶ foam.</li> </ul>
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**Special hazards arising from the substrate or mixture**

<b>Fire Incompatibility</b>	None known.
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**Advice for firefighters**

<b>Fire Fighting</b>	<ul style="list-style-type: none"> <li>▶ Alert Fire Brigade and tell them location and nature of hazard.</li> <li>▶ Wear breathing apparatus plus protective gloves in the event of a fire.</li> <li>▶ Prevent, by any means available, spillage from entering drains or water courses.</li> <li>▶ Use fire fighting procedures suitable for surrounding area.</li> </ul>
<b>Fire/Explosion Hazard</b>	<ul style="list-style-type: none"> <li>▶ Non combustible.</li> <li>▶ Not considered to be a significant fire risk.</li> <li>▶ Expansion or decomposition on heating may lead to violent rupture of containers.</li> <li>▶ Decomposes on heating and may produce toxic fumes of carbon monoxide (CO).</li> </ul>

**SECTION 6 ACCIDENTAL RELEASE MEASURES**

**Personal precautions, protective equipment and emergency procedures**

<b>Minor Spills</b>	<ul style="list-style-type: none"> <li>▶ Clean up all spills immediately.</li> <li>▶ Avoid breathing vapours and contact with skin and eyes.</li> <li>▶ Control personal contact with the substance, by using protective equipment.</li> <li>▶ Contain and absorb spill with sand, earth, inert material or vermiculite.</li> </ul>
<b>Major Spills</b>	<p>Moderate hazard.</p> <ul style="list-style-type: none"> <li>▶ Clear area of personnel and move upwind.</li> <li>▶ Alert Fire Brigade and tell them location and nature of hazard.</li> <li>▶ Wear breathing apparatus plus protective gloves.</li> </ul>
<p>Personal Protective Equipment advice is contained in Section 8 of the MSDS.</p>	

**SECTION 7 HANDLING AND STORAGE**

**Precautions for safe handling**

<b>Safe handling</b>	<ul style="list-style-type: none"> <li>▶ Avoid all personal contact, including inhalation.</li> <li>▶ Wear protective clothing when risk of exposure occurs.</li> <li>▶ Use in a well-ventilated area.</li> <li>▶ Avoid contact with moisture.</li> </ul>
<b>Other information</b>	<ul style="list-style-type: none"> <li>▶ Store in original containers.</li> <li>▶ Keep containers securely sealed.</li> <li>▶ Store in a cool, dry, well-ventilated area.</li> <li>▶ Store away from incompatible materials and foodstuff containers.</li> </ul>

**Conditions for safe storage, including any incompatibilities**

<b>Suitable container</b>	<ul style="list-style-type: none"> <li>▶ Polyethylene or polypropylene container.</li> <li>▶ Packing as recommended by manufacturer.</li> <li>▶ Check all containers are clearly labelled and free from leaks.</li> </ul>
<b>Storage incompatibility</b>	None known

**PACKAGE MATERIAL INCOMPATIBILITIES**  
Not Available

**SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION**

**Control parameters**

**OCCUPATIONAL EXPOSURE LIMITS (OEL)**

Continued...

**Fleetguard Restore Plus - Acid Cooling System Cleaner**

**INGREDIENT DATA**


Source	Ingredient	Material name	TWA	STEL	Peak	Notes
Australia Exposure Standards	phosphoric acid	Phosphoric acid	1 mg/m3	3 mg/m3	Not Available	Not Available

**EMERGENCY LIMITS**

Ingredient	TEEL-0	TEEL-1	TEEL-2	TEEL-3
Fleetguard Restore Plus - Acid Cooling System Cleaner	Not Available	Not Available	Not Available	Not Available

Ingredient	Original IDLH	Revised IDLH
phosphoric acid	10,000 mg/m3	1,000 mg/m3
water	Not Available	Not Available

**Exposure controls**

<b>Appropriate engineering controls</b>	<p>Engineering controls are used to remove a hazard or place a barrier between the worker and the hazard. Well-designed engineering controls can be highly effective in protecting workers and will typically be independent of worker interactions to provide this high level of protection.</p> <p>The basic types of engineering controls are:</p> <ul style="list-style-type: none"> <li>Process controls which involve changing the way a job activity or process is done to reduce the risk.</li> <li>Enclosure and/or isolation of emission source which keeps a selected hazard "physically" away from the worker and ventilation that strategically "adds" and "removes" air in the work environment.</li> </ul>
<b>Personal protection</b>	
<b>Eye and face protection</b>	<ul style="list-style-type: none"> <li>Safety glasses with side shields.</li> <li>Chemical goggles.</li> <li>Contact lenses may pose a special hazard; soft contact lenses may absorb and concentrate irritants. A written policy document, describing the wearing of lenses or restrictions on use, should be created for each workplace or task.</li> </ul>
<b>Skin protection</b>	See Hand protection below
<b>Hands/feet protection</b>	<ul style="list-style-type: none"> <li>Wear chemical protective gloves, e.g. PVC.</li> <li>Wear safety footwear or safety gumboots, e.g. Rubber</li> </ul>
<b>Body protection</b>	See Other protection below
<b>Other protection</b>	<ul style="list-style-type: none"> <li>Overalls.</li> <li>P.V.C. apron.</li> <li>Barrier cream.</li> </ul>
<b>Thermal hazards</b>	Not Available

**Recommended material(s)**

**GLOVE SELECTION INDEX**

Glove selection is based on a modified presentation of the "Forsberg Clothing Performance Index". The effect(s) of the following substance(s) are taken into account in the computer-generated selection: Fleetguard Restore Plus - Acid Cooling System Cleaner

Material	CPI
NEOPRENE	A

\* CPI - Chemwatch Performance Index

A: Best Selection

B: Satisfactory; may degrade after 4 hours continuous immersion

C: Poor to Dangerous Choice for other than short term immersion

**NOTE:** As a series of factors will influence the actual performance of the glove, a final selection must be based on detailed observation. -

\* Where the glove is to be used on a short term, casual or infrequent basis, factors such as "feel" or convenience (e.g. disposability), may dictate a choice of gloves which might otherwise be unsuitable following long-term or frequent use. A qualified practitioner should be consulted.

**Respiratory protection**

Type B-P Filter of sufficient capacity. (AS/NZS 1716 & 1715, EN 143:2000 & 149:2001, ANSI Z88 or national equivalent)

Where the concentration of gas/particulates in the breathing zone, approaches or exceeds the "Exposure Standard" (or ES), respiratory protection is required.

Degree of protection varies with both face-piece and Class of filter; the nature of protection varies with Type of filter.

Required Minimum Protection Factor	Half-Face Respirator	Full-Face Respirator	Powered Air Respirator
up to 10 x ES	B-AUS P2	-	B-PAPR-AUS / Class 1 P2
up to 50 x ES	-	B-AUS / Class 1 P2	-
up to 100 x ES	-	B-2 P2	B-PAPR-2 P2 ^

^ - Full-face

A(All classes) = Organic vapours, B AUS or B1 = Acid gasses, B2 = Acid gas or hydrogen cyanide(HCN), B3 = Acid gas or hydrogen cyanide(HCN), E = Sulfur dioxide(SO2), G = Agricultural chemicals, K = Ammonia(NH3), Hg = Mercury, NO = Oxides of nitrogen, MB = Methyl bromide, AX = Low

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boiling point organic compounds(below 65 degC)

**SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES**

**Information on basic physical and chemical properties**

<b>Appearance</b>	Clear acidic liquid with little or no odour; mixes with water.		
<b>Physical state</b>	Liquid	<b>Relative density (Water = 1)</b>	1.11-1.13
<b>Odour</b>	Not Available	<b>Partition coefficient n-octanol / water</b>	Not Available
<b>Odour threshold</b>	Not Available	<b>Auto-ignition temperature (°C)</b>	Not Available
<b>pH (as supplied)</b>	2.5-3.0	<b>Decomposition temperature</b>	Not Available
<b>Melting point / freezing point (°C)</b>	Not Available	<b>Viscosity (cSt)</b>	Not Available
<b>Initial boiling point and boiling range (°C)</b>	104	<b>Molecular weight (g/mol)</b>	Not Applicable
<b>Flash point (°C)</b>	Not Available	<b>Taste</b>	Not Available
<b>Evaporation rate</b>	Not Available	<b>Explosive properties</b>	Not Available
<b>Flammability</b>	Not Available	<b>Oxidising properties</b>	Not Available
<b>Upper Explosive Limit (%)</b>	Not Available	<b>Surface Tension (dyn/cm or mN/m)</b>	Not Available
<b>Lower Explosive Limit (%)</b>	Not Available	<b>Volatile Component (%vol)</b>	50
<b>Vapour pressure (kPa)</b>	Not Available	<b>Gas group</b>	Not Available
<b>Solubility in water (g/L)</b>	Miscible	<b>pH as a solution(1%)</b>	Not Available
<b>Vapour density (Air = 1)</b>	>1	<b>VOC g/L</b>	Not Available

**SECTION 10 STABILITY AND REACTIVITY**

<b>Reactivity</b>	See section 7
<b>Chemical stability</b>	<ul style="list-style-type: none"> <li>▶ Unstable in the presence of incompatible materials.</li> <li>▶ Product is considered stable.</li> <li>▶ Hazardous polymerisation will not occur.</li> </ul>
<b>Possibility of hazardous reactions</b>	See section 7
<b>Conditions to avoid</b>	See section 7
<b>Incompatible materials</b>	See section 7
<b>Hazardous decomposition products</b>	See section 5

**SECTION 11 TOXICOLOGICAL INFORMATION**

**Information on toxicological effects**

<b>Inhaled</b>	Not normally a hazard due to non-volatile nature of product Limited evidence or practical experience suggests that the material may produce irritation of the respiratory system, in a significant number of individuals, following inhalation. In contrast to most organs, the lung is able to respond to a chemical insult by first removing or neutralising the irritant and then repairing the damage. The repair process, which initially evolved to protect mammalian lungs from foreign matter and antigens, may however, produce further lung damage resulting in the impairment of gas exchange, the primary function of the lungs. Respiratory tract irritation often results in an inflammatory response involving the recruitment and activation of many cell types, mainly derived from the vascular system.
<b>Ingestion</b>	The material has NOT been classified by EC Directives or other classification systems as "harmful by ingestion". This is because of the lack of corroborating animal or human evidence. The material may still be damaging to the health of the individual, following ingestion, especially where pre-existing organ (e.g liver, kidney) damage is evident. Present definitions of

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	harmful or toxic substances are generally based on doses producing mortality rather than those producing morbidity (disease, ill-health).
<b>Skin Contact</b>	The material may cause skin irritation after prolonged or repeated exposure and may produce a contact dermatitis (nonallergic). This form of dermatitis is often characterised by skin redness (erythema) and swelling epidermis. Histologically there may be intercellular oedema of the spongy layer (spongiosis) and intracellular oedema of the epidermis.
<b>Eye</b>	The material may be irritating to the eye, with prolonged contact causing inflammation. Repeated or prolonged exposure to irritants may produce conjunctivitis.
<b>Chronic</b>	Long-term exposure to the product is not thought to produce chronic effects adverse to health (as classified by EC Directives using animal models); nevertheless exposure by all routes should be minimised as a matter of course.

<b>Fleetguard Restore Plus - Acid Cooling System Cleaner</b>	<b>TOXICITY</b>	<b>IRRITATION</b>
	Not Available	Not Available
<b>phosphoric acid</b>	<b>TOXICITY</b>	<b>IRRITATION</b>
	Dermal (rabbit) LD50: >1260 mg/kg*	[Monsanto]*
	Inhalation (Mouse) LC50: 25.5 mg/m3/4h	Eye (rabbit): 119 mg - SEVERE
	Inhalation (Rat) LC50: 25.5 mg/m3/4h	Skin (rabbit):595 mg/24h - SEVERE
	Oral (rat) LD50: 1530 mg/kg	
	Oral (rat) LD50: 3500 mg/kg*	
	Not Available	Not Available
<b>water</b>	<b>TOXICITY</b>	<b>IRRITATION</b>
	Not Available	Not Available

Not available. Refer to individual constituents.

<b>PHOSPHORIC ACID</b>	No significant acute toxicological data identified in literature search. for acid mists, aerosols, vapours Data from assays for genotoxic activity in vitro suggest that eukaryotic cells are susceptible to genetic damage when the pH falls to about 6.5. Cells from the respiratory tract have not been examined in this respect. Mucous secretion may protect the cells of the airways from direct exposure to inhaled acidic mists, just as mucous plays an important role in protecting the gastric epithelium from its auto-secreted hydrochloric acid. phosphoric acid ( 85%)
<b>WATER</b>	No significant acute toxicological data identified in literature search.

<b>Acute Toxicity</b>	☉	<b>Carcinogenicity</b>	☉
<b>Skin Irritation/Corrosion</b>	☉	<b>Reproductivity</b>	☉
<b>Serious Eye Damage/Irritation</b>	☉	<b>STOT - Single Exposure</b>	☉
<b>Respiratory or Skin sensitisation</b>	☉	<b>STOT - Repeated Exposure</b>	☉
<b>Mutagenicity</b>	☉	<b>Aspiration Hazard</b>	☉

**Legend:** ☉ – Data required to make classification available  
✘ – Data available but does not fill the criteria for classification  
☉ – Data Not Available to make classification

**CMR STATUS**

Not Applicable

**SECTION 12 ECOLOGICAL INFORMATION**

**Toxicity**

**Persistence and degradability**

Continued...

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Ingredient	Persistence: Water/Soil	Persistence: Air
Not Available	Not Available	Not Available

**Bioaccumulative potential**

Ingredient	Bioaccumulation
Not Available	Not Available

**Mobility in soil**

Ingredient	Mobility
Not Available	Not Available

**SECTION 13 DISPOSAL CONSIDERATIONS**

**Waste treatment methods**

Product / Packaging disposal	
	<ul style="list-style-type: none"> <li>▶ Recycle wherever possible.</li> <li>▶ Consult manufacturer for recycling options or consult local or regional waste management authority for disposal if no suitable treatment or disposal facility can be identified.</li> <li>▶ Dispose of by: burial in a land-fill specifically licenced to accept chemical and / or pharmaceutical wastes or incineration in a licenced apparatus (after admixture with suitable combustible material).</li> <li>▶ Decontaminate empty containers.</li> </ul>

**SECTION 14 TRANSPORT INFORMATION**

**Labels Required**

Marine Pollutant	
	NO
HAZCHEM	
	Not Applicable

**Land transport (ADG): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS**

**Air transport (ICAO-IATA / DGR): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS**

**Sea transport (IMDG-Code / GGVSee): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS**

**Transport in bulk according to Annex II of MARPOL 73 / 78 and the IBC code**

Source	Ingredient	Pollution Category
IMO MARPOL 73/78 (Annex II) - List of Noxious Liquid Substances Carried in Bulk	phosphoric acid	Z

**SECTION 15 REGULATORY INFORMATION**

**Safety, health and environmental regulations / legislation specific for the substance or mixture**

<p><b>phosphoric acid(7664-38-2) is found on the following regulatory lists</b></p>	<p>"Joint FAO/WHO Expert Committee on Food Additives (JECFA) Compendium of Food Additive Specifications - Antioxidants synergist", "IMO MARPOL 73/78 (Annex II) - List of Noxious Liquid Substances Carried in Bulk", "International Council of Chemical Associations (ICCA) - High Production Volume List", "International Maritime Dangerous Goods Requirements (IMDG Code)", "Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Appendix F (Part 3)", "Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 5", "International Maritime Dangerous Goods Requirements (IMDG Code) - Substance Index", "Australia GHS Hazardous Chemical Information List (Draft)", "Australia Exposure Standards", "United Nations Recommendations on the Transport of Dangerous Goods Model Regulations (English)", "FisherTransport Information", "Australia Dangerous Goods Code (ADG Code) - List of Emergency Action Codes", "Joint FAO/WHO Expert Committee on Food Additives (JECFA) Compendium of Food Additive Specifications - Acidulant", "OECD List of High Production Volume (HPV) Chemicals", "Australia - Tasmania Misuse of Drugs Act 2001 - SCHEDULE 1 - Controlled substances and trafficable quantities - PART 4 - Controlled precursors", "Australia Inventory of Chemical Substances (AICS)", "International Numbering System for Food Additives", "Belgium Federal Public Service Mobility and Transport, Regulations concerning the International Carriage of Dangerous Goods by Rail - Table A: Dangerous Goods List - RID 2013 (Dutch)", "United Nations Recommendations on the Transport of Dangerous Goods Model Regulations (Spanish)", "Sigma-AldrichTransport Information", "OECD Existing Chemicals Database", "OSPAR National List of Candidates for Substitution - United Kingdom", "Australia High Volume Industrial Chemical List (HVICL)", "Australia National Pollutant Inventory", "Australia Active Constituents Excluded from the requirements of APVMA Approval", "International Air Transport Association (IATA) Dangerous Goods Regulations", "GESAMP/EHS Composite List - GESAMP Hazard Profiles", "Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Appendix E (Part 2)", "Australia Hazardous</p>

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<p>water(7732-18-5) is found on the following regulatory lists</p>	<p>Substances Information System - Consolidated Lists", "Australia Dangerous Goods Code (ADG Code) - Dangerous Goods List", "IMO IBC Code Chapter 17: Summary of minimum requirements", "Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 6"</p> <p>"WHO Model List of Essential Medicines - Children", "Australia Therapeutic Goods Administration (TGA) Substances that may be used in Listed medicines", "WHO Model List of Essential Medicines - Adults", "OSPAR National List of Candidates for Substitution - Norway", "OECD List of High Production Volume (HPV) Chemicals", "Australia Inventory of Chemical Substances (AICS)", "Sigma-Aldrich Transport Information", "IMO IBC Code Chapter 18: List of products to which the Code does not apply", "Australia High Volume Industrial Chemical List (HVICL)", "International Fragrance Association (IFRA) Survey: Transparency List"</p>
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**SECTION 16 OTHER INFORMATION**

**Other information**

Classification of the preparation and its individual components has drawn on official and authoritative sources as well as independent review by the Chemwatch Classification committee using available literature references.

A list of reference resources used to assist the committee may be found at:

[www.chemwatch.net/references](http://www.chemwatch.net/references)

The (M)SDS is a Hazard Communication tool and should be used to assist in the Risk Assessment. Many factors determine whether the reported Hazards are Risks in the workplace or other settings. Risks may be determined by reference to Exposures Scenarios. Scale of use, frequency of use and current or available engineering controls must be considered.

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